

BLUE EARTH COUNTY HIGHWAY DEPARTMENT

CONSTRUCTION PLAN FOR BITUMINOUS
OVERLAY & AGGR. SHOULDER

COUNTY ROAD NO. 168

BEGIN CO. PROJ. No. 8683

EQUATION

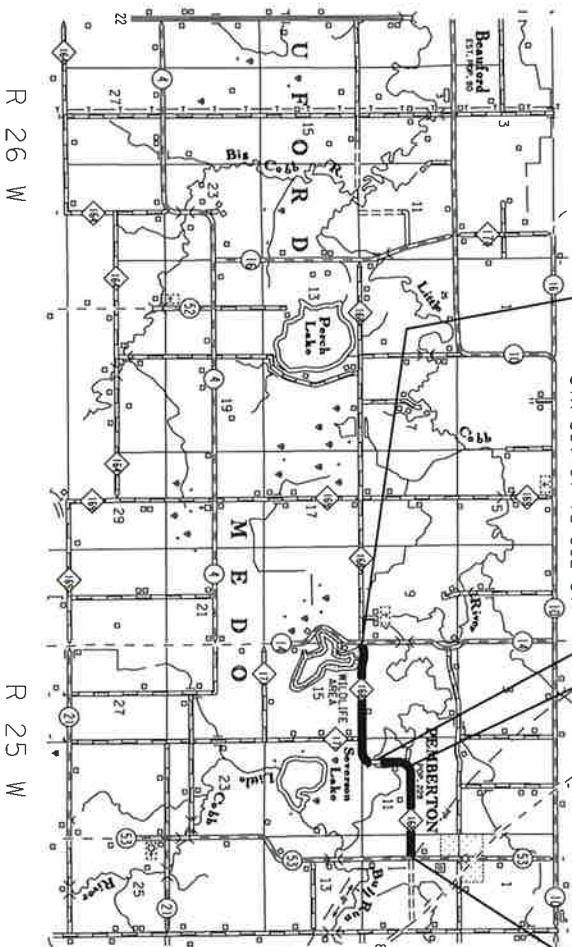
STA 312+22

STA 388+63 = 389+37

BRIDGE EXCEPTION = 70'

STA 452+45

END CO. PROJ. No. 8683



DESIGN DESIGNATION

ADT (Current Year) 162 2014
ADT (Future Year) 243 2034
ADT (Heavy Commercial)
ESAL 69,000
10 TON DESIGN
DESIGN SPEED 45 MPH
DESIGN SPEED NOT ACHIEVED AT:
SOIL FACTOR 130
SHOULDER WIDTH 3'
STOPPING SIGHT DISTANCE BASED ON
3.5' HEIGHT OF EYE
0.5' HEIGHT OF OBJECT

GOVERNING SPECIFICATIONS

THE 2005 EDITION OF THE MINNESOTA DEPARTMENT
OF TRANSPORTATION'S "STANDARD SPECIFICATIONS
FOR CONSTRUCTION" SHALL GOVERN.

PLAN NOT TO SCALE



BETWEEN: CSAH 14 AND CSAH 53
FROM: THE SW COR. OF SEC. 10-106-25
TO: THE SE COR OF THE SW 1/4 OF THE NW 1/4 OF
SEC. 12-106-25

GROSS LENGTH 13949.00 FEET 2.642 MILES
BRIDGE EXCEPTION 70.00 FEET 0.013 MILES
NET LENGTH 13949.00 FEET 2.629 MILES

OVERLAYED IN: 1987 UNDER CO. PROJ. No. 878
GRADED IN: 1955

STATIONS DIFFER FROM OLD
PLAN BECAUSE OF STARTING
AND STOPPING POINTS

ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND ORDINANCES WILL BE
COMPLIED WITH, IN THE CONSTRUCTION OF THIS PROJECT.

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED
BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED
PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Alan Forsberg
COUNTY ENGINEER

ALAN FORSBERG

DATE *11 Mar 14*

LIC. NO. 14720

ESTIMATED QUANTITY

ITEM NO.	ITEM	UNIT	CR # 168	NON PART.	TOTAL
(1)	2118.501 AGGREGATE SURFACING, CL-2 (M)	TON	43	0	43
(1)	2221.501 AGGREGATE SHOULDERING, CL-1 (M)	TON	1034	0	1034
	2232.501 MILL BITUMINOUS SURFACE	SQ YD	640	0	640
(1)	2360.501 TYPE SP 19.0 WEARING COURSE MIX (2.B)	TON	3241	0	3241
(2)	2580.501 TEMPORARY LANE MARKING	LIN FT	1116	0	1116

(1) BASIS OF PAYMENT SPECIFIED IN SPEC. 1903 SHALL BE MODIFIED TO PRECLUDE ANY PRICE ADJUSTMENT FOR INCREASED OR DECREASED QUANTITIES.
 (2) PLACED ON EVERY LIFT, REMOVED BEFORE NEXT LIFT AND PRIOR TO STRIPING.

CERT. BY Alan Forberg L.I.C. NO. 14720 MAR. 10, 2014 CD. PROJ. NO. 8683 SHEET NO. 2 OF 7 SHEETS

BASIS FOR PLANNED QUANTITIES

AGGREGATE SHOULDERING, & SURFACING
COMPACTED DRY DENSITY - 140 LBS. PER CU. FT.

BITUMINOUS SURFACE

BITUM. MAT'L FOR TACK COAT WILL BE INCIDENTAL

BITUM. MAT'L FOR WEAR COURSE AC (PG 58-28) 5.8% BY WEIGHT

BITUM. COURSES, 110 LBS. PER 1" / SQ. YD.

THE FOLLOWING STANDARD PLATES AS APPROVED BY THE FHWA SHALL APPLY

STANDARD PLATES	
PLATE NO.	DESCRIPTION
80001	STANDARD BARRICADES

SHLD. & SURF. QUANTITIES
ROAD # CR 168
PROJECT # CO. PROJ. NO. 8683

LOCATION	LENGTH FEET	AVER WIDTH FEET	DEPTH INCHES	AGGR. SHLD. TON	AGGR. SURF. TON
SHOULDER CL-1M					
STA 312 + 22 TO STA 315 + 9 RT	287	3	2	10	
STA 315 + 9 TO STA 319 + 8 RT	399	2	2	10	
STA 319 + 8 TO STA 381 + 61 RT	6253	3	2	220	
STA 382 + 31 TO STA 388 + 63 RT	632	3	2	20	
STA 389 + 37 TO STA 396 + 85 RT	748	3	2	30	
STA 396 + 85 TO STA 405 + 87 RT	902	2	2	20	
STA 405 + 87 TO STA 452 + 45 RT	4658	3	2	160	
MATERIAL FOR FIELD ENTRANCES					
STA 312 + 22 TO STA 324 + 5 LT	1183	3	2	40	
STA 324 + 5 TO STA 327 + 51 LT	346	2	2	10	
STA 327 + 51 TO STA 372 + 25 LT	4474	3	2	160	
STA 372 + 25 TO STA 381 + 88 LT	963	2	2	20	
STA 382 + 38 TO STA 388 + 63 LT	625	3	2	20	
STA 389 + 37 TO STA 452 + 45 LT	6308	3	2	220	
AGGR. SURFACING CL-2 (M)				94	
4 DRIVEWAYS @ 7 TONS					28
1 INTERSECTIONS @ 15 TONS					15
TOTAL				1034	43

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SHOULDERING & SURFACING QUANTITIES

CERTIFIED BY

Alan Forsberg

LIC. NO. 14720

MAR. 10, 2014

CR CO. PROJ. NO. 8683

SHEET 4 OF 7 SHEETS

CR 168 SUPERPAVE BITUM. CALCULATIONS

LOCATION		LENGTH FEET	AVER WIDTH FEET	DEPTH INCHES	WEAR TON
BITUM. WEAR					
STA	312 + 22 TO STA	315 + 9	24	1.5	63
STA	315 + 9 TO STA	319 + 8	26	1.5	95
STA	319 + 8 TO STA	324 + 5	24	1.5	109
STA	324 + 5 TO STA	327 + 51	26	1.5	82
STA	327 + 51 TO STA	372 + 25	24	1.5	984
STA	372 + 25 TO STA	381 + 61	26	1.5	223
STA	382 + 31 TO STA	388 + 63	24	1.5	139
STA	388 + 63 IS STA	389 + 37			
STA	389 + 37 TO STA	396 + 85	24	1.5	165
STA	396 + 85 TO STA	405 + 87	26	1.5	215
STA	405 + 87 TO STA	452 + 45	24	1.5	1025
EQUATION					
1 INTERSECTIONS @		30 TONS			30
6 DRIVEWAYS @		15 TONS			90
6 MAILBOX PADS @		125 LENGTH	3	1.5	21
TOTAL					3241

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MILL BITUM. SURFACE

STATION TO STATION	LOC.	LENGTH	WIDTH	SQ.YD.
380 + 41 TO 381 + 61		120	24	320
382 + 31 TO 383 + 51		120	24	320
TOTAL				640

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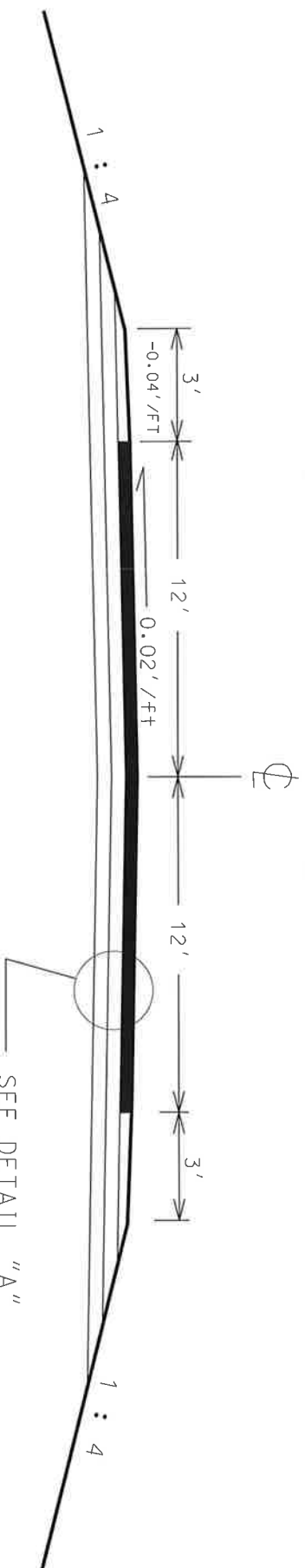
TAPER FROM END OF BRIDGE STARTING AT DEPTH OF 1.5"
OUT TO 0" IN 100'
THE MILLINGS SHALL BE HAULED TO PRANGE PIT, SEE
SPECIAL PROVISIONS.

SUPERPAVE & MILLING QUANTITIES

CERTIFIED BY Alan Forsberg LIC. NO. 14720 MAR. 10, 2014 CO. PROJ. No. 8683 SHEET No. 5 OF 7 SHEETS

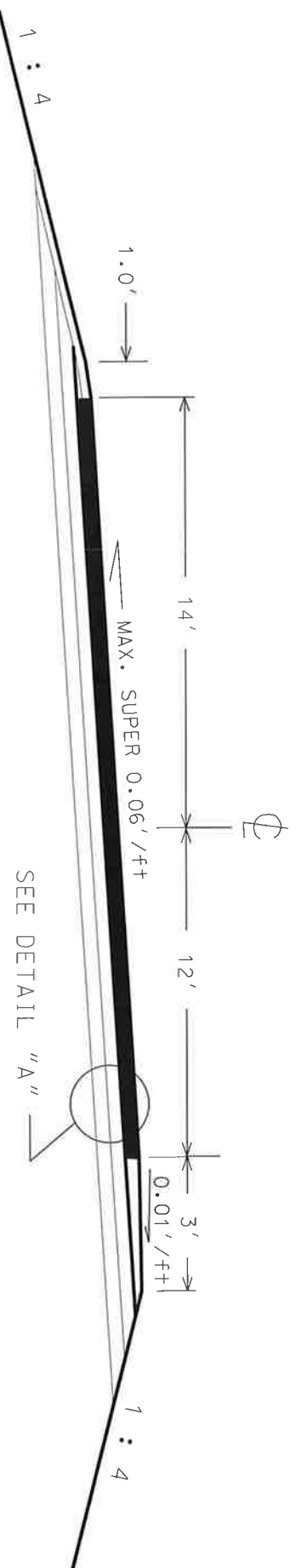
TYPICAL SECTION

STA 312+22 TO STA 315+09	STA 382+31 TO STA 388+63
STA 319+08 TO STA 324+05	STA 389+37 TO STA 396+85
STA 327+51 TO STA 372+25	STA 405+87 TO STA 452+45

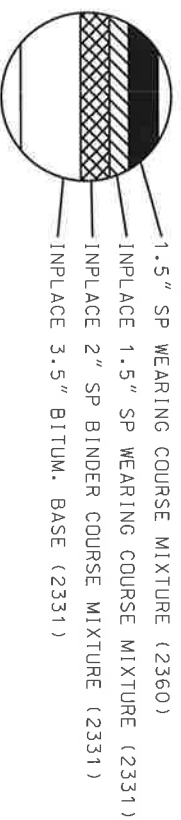


TYPICAL CURVE SECTION

STA 315+09 TO STA 319+08 RT	STA 382+31 TO STA 388+63
STA 324+05 TO STA 327+51 LT	STA 389+37 TO STA 396+85
STA 372+25 TO STA 381+61 LT	STA 405+87 TO STA 452+45
STA 396+85 TO STA 405+87 RT	

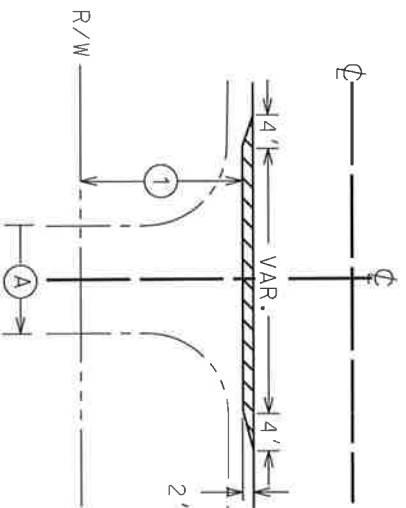


DETAIL "A"



BITUMINOUS APPROACHES AND ENTRANCES DETAIL

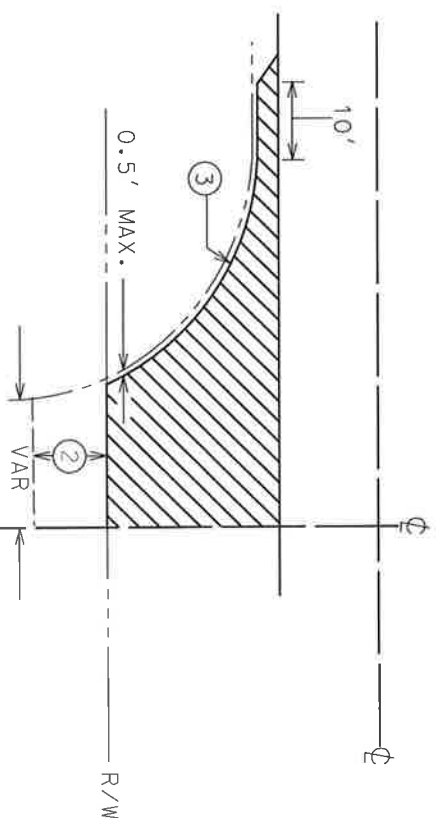
FIELD ENTRANCE



- (A) 20' FOR SINGLE F.E.
28' FOR DOUBLE F.E.

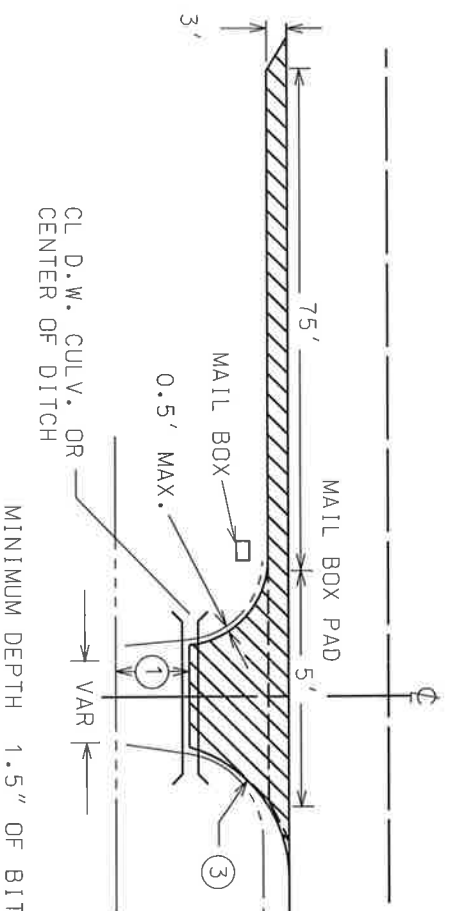
MINIMUM DEPTH 1.5" OF BIT

ROAD APPROACH



MINIMUM DEPTH 1.5" OF BIT

FARM & OTHER ENTRANCES



- (1) FINISH WITH AGGR. MATERIAL FROM
EDGE OF BITUM. TO A MIN. OF 10'.
- (2) FINISH WITH AGGR. MATERIAL, MIN. OF 10'.
- (3) BITUM. RADIUS TO BE STAKED IN
FIELD BY THE ENGINEER - 25' MIN.
(FOR FARM D.W. CONSIDER 30' TO 40' MAX.)

CONTRACTOR WILL BE REQUIRED TO SHAPE & NOTCH ALL DRIVEWAYS, INTERSECTIONS & MAIL BOX PADS THAT ARE NOT ALREADY PAVED AS DIRECTED BY THE ENGINEER. WORK SHALL BE DONE INCIDENTAL TO THE WEAR.

CONTRACTOR WILL BE REQUIRED TO HAND FINISH SHOULDERS ON ALL APPROACHES AND ENTRANCES AS DIRECTED BY THE ENGINEER.